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10/582,260

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Ronald Bayer

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EXAMINER

TISSOT, ADAM D

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/582,260	Applicant(s) BAYER ET AL.	
	Examiner ADAM TISSOT	Art Unit 3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-35 is/are pending in the application.
- 4a) Of the above claim(s) 23, 27 and 33-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-22, 24-26 and 28-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant submitted a response to the Office action on December 29, 2010.

Applicant amended claims 19-22, 24-26 and 28-32. Applicant cancelled claims 23, 27 and 33-35. These amended claims are considered herein.

Response to Arguments/Amendments

1. Regarding the claims 33-35 and the related rejection under 35 USC 112, first paragraph, because the claims were cancelled, the rejection is withdrawn.
2. Regarding the claims 19-31 and the related rejection under 35 USC 112, second paragraph, the amendments have overcome the respective rejections. The rejection is withdrawn.
3. Applicant's arguments have been fully considered but they are not persuasive. Applicant's substantive amendments of claim 19 are disclosed by the prior art of record. Specifically, Czekaj discloses "varying the additional steering torque in a negative correlation to the speed at which the manual steering wheel is turned" (see col. 3, lines 42-54; the claim is interpreted as reducing torque when a fast movement of the steering wheel is executed and increasing torque when a slow movement is executed. Czekaj is interpreted as disclosing reducing torque of the steering when the vehicle is on a good trajectory and increasing torque of the wheel when the vehicle is on a bad trajectory. It is therefore asserted that when moving the wheel in a fast motion (that is normally associated with guiding a vehicle during parallel-parking maneuver) and transferring the

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vehicle from a bad trajectory to a good trajectory would effectively reduce torque required to rotate the steering wheel). Thus, the steering torque is negatively correlated to the speed at which the steering wheel is turned.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear to what "the additional steering torque" is referring - the driver exerted steering torque or the steering torque from the module? Clarification is required. Additionally, it is encouraged that "a steering torque" from the driver is differentiated from "a steering torque" from the module. These limitations may be considered indefinite. The depending claims 20-22, 24-26 and 28-32 are rejected as depending from claim 19.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 19-22, 24-26 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Czekaj (U.S. Patent 5,742,141).

8. Regarding claim 19, Czekaj discloses a method for aiding a driver of a vehicle to park the vehicle, the vehicle having a vehicle steering system with a manual steering wheel on which the driver exerts a steering torque (see at least abstract); and a steering torque control module (figure 1, vehicle 10 equipped with semi- autonomous parking control system including computer 12 which increases and decreases the amount of steering torque required to steer while parking, col. 2, lines 21- 36) the method comprising the step of applying, by means of the steering torque control module (figure 1, computer 12) for applying a steering torque to the steering wheel, a steering torque superimposed on the steering torque exerted on the steering wheel by the driver (see col. 2, line 66 to col. 3, line 19) and varying the additional steering torque in negative correlation to the speed at which the manual steering wheel is turned (see col. 3, lines 42-54; the claim is interpreted as reducing torque when a fast movement of the steering wheel is executed and increasing torque when a slow movement is executed. Czekaj is interpreted as disclosing reducing torque of the steering when the vehicle is on a good

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trajectory and increasing torque of the wheel when the vehicle is on a bad trajectory. It is therefore asserted that when moving the wheel in a fast motion (that is normally associated with guiding a vehicle during parallel-parking maneuver) and transferring the vehicle from a bad trajectory to a good trajectory would effectively reduce torque required to rotate the steering wheel). Thus, the steering torque is negatively correlated to the speed at which the steering wheel is turned. Accordingly, as every limitation of claim 19 is disclosed by Czekaj, claim 19 is rejected under anticipation.

9. Regarding claim 20, Czekaj discloses that the additional steering torque applied to the steering wheel generates one or more artificial steering stops (abstract, figure 2, steps 36 and 38, col. 3, lines 20-34, additional steering torque is applied so that steering required the MAX steering effort when the driver is trying to steer outside the desired steering trajectory. This artificially stops the driver from steering outside of the desired trajectory unless they wish to apply a very large amount of steering torque).

10. Regarding claim 21, Czekaj discloses that the the driver is guided by the additional steering torque applied to the steering wheel during steering maneuvers in a parking procedure in a parking maneuver (abstract, figure 2, col. 3, lines, 20-50, torque is applied to increase or decrease the amount of effort required to steer).

11. Regarding claim 22, Czekaj discloses that the steering torque applied to the steering wheel is limited as a function of a steering work applied by the driver or a quantity depending thereon (abstract, figure 2, col. 3, lines, 20-50, torque is applied to increase or decrease the amount of work required by the driver so it is a function of the work applied by the driver. When the driver applies steering work to steer outside or

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inside the trajectory, it influences the steering torque applied to make it easier or harder to steer, col. 2, line 66 - col. 3, line 19 calculates whether the driver's work is within the trajectory).

12. Regarding claim 24, Czekaj discloses that changes in restore torques of the steering applied as a function of the steering angle are determined and the additional steering torque is applied to the steering wheel, taking into account the changes in the restore torques by which a driver of the vehicle is supported during a parking maneuver (all changes in torques are taken into account to determine the trajectory error, whether trajectory error is increasing/decreasing, and whether steering effort is within the min and max ranges, col. 2, line 66 - col. 3, line 50).

13. Regarding claim 25, Czekaj discloses that the additional steering torque applied to the steering wheel generates two or more additional steering stops, and the driver is guided by the additional steering torque applied to the steering wheel during a steering maneuver in the parking procedure (col. 2, lines 20-40; fig. 2, steps 34, 36, 38, steering stops are applied whenever trajectory error is greater than the tolerance and not decreasing, therefor the system can provide 2 or more stops).

14. Regarding claim 26, Czekaj discloses that the steering torque applied to the steering wheel is limited as a function of a steering work applied by the driver or a quantity depending thereon (abstract, figure 2, col. 3, lines, 20-50, torque is applied to increase or decrease the amount of work required by the driver so it is a function of the work applied by the driver. When the driver applies steering work to steer outside or inside the trajectory, it influences the steering torque applied to make it easier or harder

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to steer, col. 2, line 66 - col. 3, line 19 calculates whether the driver's work is within the trajectory).

15. Regarding claim 32, Czekał discloses a parking aid for a motor vehicle having a vehicle steering with a manual steering wheel, the parking aid comprising: a device (figure 1, vehicle 10 equipped with semi-autonomous parking control system including computer 10 which increases and decreases the amount of steering torque required to steer while parking, col. 2, lines 21-36) for applying one or more steering stops to the manual steering wheel, wherein a driver is guided during steering maneuvers of a parking maneuver (abstract, figure 2, steps 36 and 38, col. 3, lines 20-34, additional steering torque is applied so that steering required the MAX steering effort when the driver is trying to steer outside the desired steering trajectory. This artificially stops the driver from steering outside of the desired trajectory unless they wish to apply a very large amount of steering torque).

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Czekał (U.S. Patent 5,742,141) in view of Shyu, et al. (U.S. Patent 4,931,930).

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18. Regarding claim 28, Czakaj does not particularly disclose the details of a longitudinal dynamics control module. However, Shyu et al. teach a parking aid with a longitudinal dynamics control module (microprocessor 1) for controlling a speed of the vehicle in maneuvering into a parking space by automatic braking intervention (brake actuator 45) measures as a function of a position of an accelerator pedal (accelerator actuator 44) of the motor vehicle (Col. 8 line 49 - col. 9, line 11). It would have been obvious to one of ordinary skill at the time the invention was made to modify the invention of Czakaj to include the teachings of Shyu et al. so that the method for parking can control the speed as well as steering.

19. Regarding claim 29, Czakaj does not particularly disclose the details of speed control. Shyu et al. teach that when parking in a parking space, the speed of the vehicle is controlled by additional intervention into an engine torque of a drive engine of the vehicle as a function of the position of the brake pedal (accelerator actuator 44 and brake actuator 45 used to "appropriately control the output of the engine", Col. 8 line 49 -col. 9, line 11). It would have been obvious to one of ordinary skill at the time the invention was made to modify the invention of Czakaj to include the teachings of Shyu et al. so that the method for parking can control the speed as well as steering.

20. Regarding claim 30, Czakaj does not particularly disclose the details of speed control. Shyu et al. teach when maneuvering into a parking space, the speed of the vehicle is controlled by additional intervention into the engine torque of the drive engine of the vehicle and by automatic gear-shifting of the vehicle transmission as a function of

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the position of the brake pedal (microprocessor 1, transmission actuator 42, clutch actuator 43, Col. 8 line 49- col. 9, line 11). It would have been obvious to one of ordinary skill at the time the invention was made to modify the invention of Czakaj to include the teachings of Shyu et al. so that the method for parking can control the speed as well as steering.

21. Regarding claim 31, Czakaj does not particularly disclose the details of automatic braking. Shyu et al. teach when an end of the parking space is detected, the vehicle is automatically braked on reaching the end or shortly before reaching the end of the parking space (brake actuator 45, Col. 8 line 49 - col. 9, line 11). It would have been obvious to one of ordinary skill at the time the invention was made to modify the invention of Czakaj to include the teachings of Shyu et al. so that the method for parking can control braking as well as steering.

Conclusion

22. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADAM TISSOT whose telephone number is (571)270-3439. The examiner can normally be reached on Monday - Friday from 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on (571)272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JACK KEITH/

Supervisory Patent Examiner, Art Unit 3663